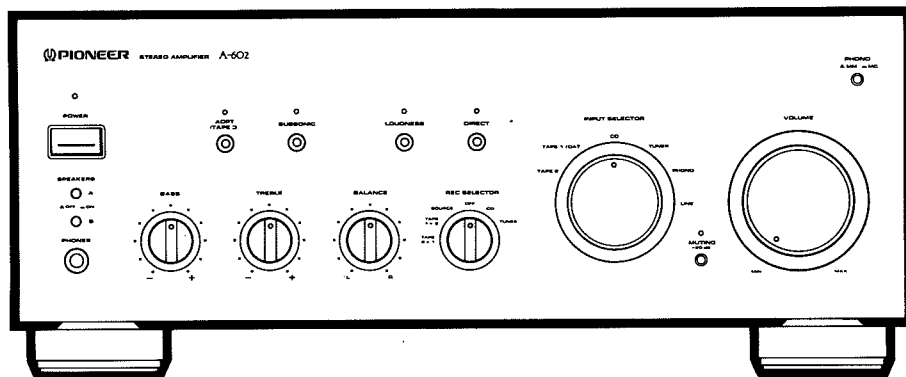


Operating Instructions

STEREO AMPLIFIER

A-602



Thank you for buying this Pioneer product.
Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.
In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

"This product complies with the Radio Interference requirements of the EC (European Community) Directive 87/308/EEC."

IMPORTANT



The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT

FOR USE IN THE UNITED KINGDOM

The wires in this mains lead are coloured in accordance with the following code:

blue neutral
brown live

If the plug provided is unsuitable for your socket outlets, the plug must be cut off and a suitable plug fitted.

The cut-off plug should be disposed of and must not be inserted into any 13 amp socket as this can result in electric shock. The plug or adaptor or the distribution panel should be provided with 13 amp fuse. As the colours of the wires in the mains lead of this appliance may not correspond with coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Do not connect either wire to the earth terminal of a three pin plug.

NOTE

After replacing or changing a fuse, the fuse cover in the plug must be replaced with a fuse cover which corresponds to the colour of the insert in the base of the plug or the word that is embossed on the base of the plug, and the appliance must not be used without a fuse cover. If lost, replacement fuse covers can be obtained from your dealer.

This appliance is rated at 13 amps.
Only 13 amp fuses approved to B.S. 1362 A.S.T.A. should be used.

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FEATURES

- **Wide-Range Linear Circuit**
This new current feedback circuit assures improved operating stability for flat output impedance and stable driving of speakers across the full range of frequencies.
- **High-Current Drive Circuit**
This circuit boosts audio signal current for improved suppression of noise, while a special 2-stage volume circuit improves S/N ratio during actual operation.
- **Chamber Construction**
The AC power supply and audio circuits are separated by a metal screen in order to reduce the effect of mains-borne noise and transformer flux leakage. The metal screen also suppresses resonances and vibrations in the unit.
- **"AERO" Heat Sink**
The highly rigid, curved fins help suppress resonance to assure clear reproduction.
- **High Channel Separation Design**
The high-current drive circuit and channel separation enhancer circuit assure exceptionally wide range channel separation.
- **Motor-driven rotary mechanism for input selection.**
- **Uses a complementary capacitor pair.**
- **The use of a DIRECT circuit ensures high fidelity playback of consistent frequency characteristics, with maximum clarity.**

INSTALLATION

LOCATION

Install the amplifier in a well-ventilated location where it will not be exposed to high temperature or humidity.

Do not install the amplifier in a location which is exposed to direct sunlight, or near hot appliances or radiators. Excessive heat can adversely affect the cabinet and internal components. Installation of the amplifier in a damp or dusty environment may result in malfunction or accident. (Also avoid installation near cookers etc., where the amplifier may be exposed to smoke from oil, steam or heat.)



CONDENSATION

When the unit is brought into a warm room from previously cold conditions or when the room temperature is suddenly increased, condensation may form inside and the unit may not be able to attain its full performance. In cases like this, allow the unit to stand for about an hour or raise the room temperature gradually.

POWER-CORD CAUTION

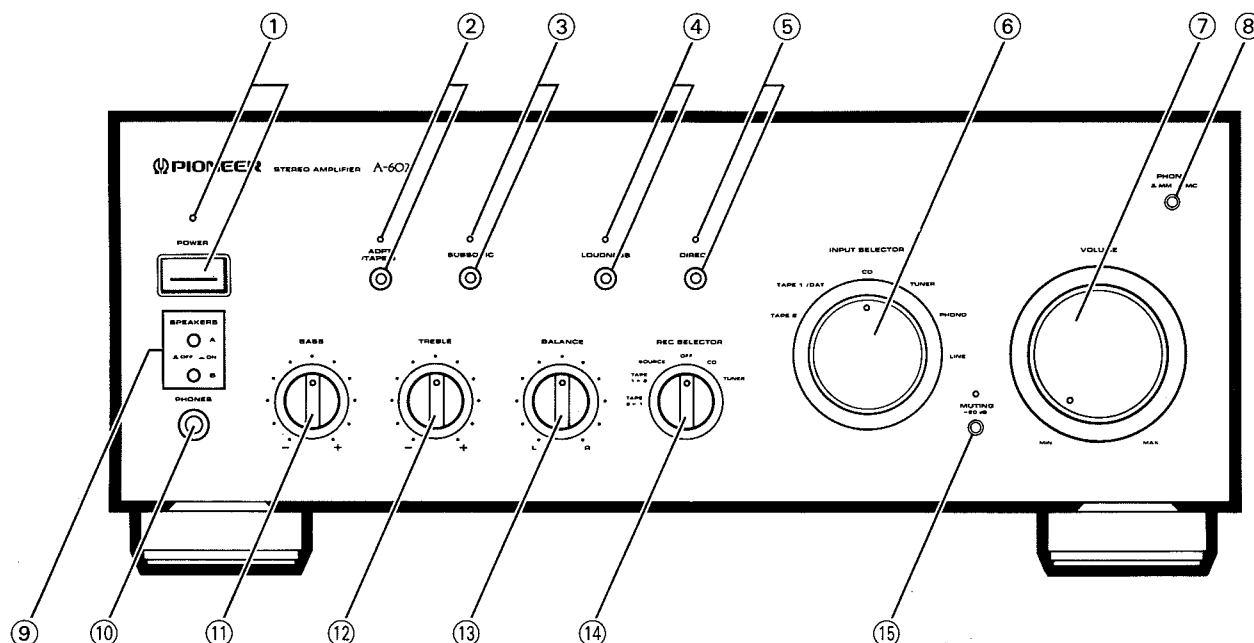
Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

MAINTENANCE OF EXTERNAL SURFACES

- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surfaces are very dirty, wipe with a soft cloth dipped in some neutral cleanser diluted five or six times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleaners.
- Never use thinners, benzine, insecticide sprays or other chemicals on or near this unit, since these will corrode the surfaces.

PANEL FACILITIES

[FRONT PANEL]



① POWER switch/indicator

Press to turn power to the unit on and off.
When the power is on, the indicator lights.

NOTE:

When performing timer recording with this unit, be sure to set the POWER switch to ON.

② ADPT (adaptor)/TAPE 3 button/indicator

Use this button to listen to tape playback, or to monitor a tape recording.

On: (Red illumination)

The indicator lights: Press when listening to the playback sound of the cassette deck or the adaptor connected to the ADPT/TAPE 3 IN/PLAY jacks, or to monitor the sound being recorded on the cassette deck connected to the ADPT/TAPE 3 OUT/REC jacks.

Off:

The indicator goes off: Normally leave the button in this position.

NOTE:

When the DIRECT button is set to ON, this function does not operate and no signal is output at the ADPT/TAPE 3 OUT/REC jacks.

When the DIRECT button is in the off position, only the source signal is output from the ADPT/TAPE 3 OUT/REC jack.

③ SUBSONIC filter button/indicator

Use this button when playing records with coarse grooves.

On: (Red illumination)

The indicator lights: In this position, frequencies of 17 Hz and below are cut, eliminating super-low frequency noise caused by coarse record grooves and thus helping prevent sound distortion.

Off:

The indicator goes off: Leave in this position for normal playback.

NOTE:

This button does not operate when DIRECT button is in the on position. This button operates when PHONO is selected by the INPUT SELECTOR switch (refer to ⑥ on page 4).

④ LOUDNESS button/indicator

Use when listening at low volume levels.

On: (Red illumination)

The indicator lights: Boosts low and high frequencies to give added punch to playback at low volume.

Off:

The indicator goes off: Should normally be left in this position.

NOTES:

- This button does not operate when the DIRECT button is in the on position.
- At volume levels below the 10 o'clock position, the LOUDNESS effect is obtained.
- At volume levels above the 10 o'clock position, the effect becomes increasingly weaker.

⑤ DIRECT button/indicator

Use this button when you wish to bypass the various frequency adjusting circuits and adaptor jacks (ADPT/TAPE 3, SUBSONIC, BASS, TREBLE, BALANCE, LOUDNESS).

On: (Orange illumination)

When this button is in this position, the indicator lights and the signals input from the input jacks are reproduced without passing through the various frequency-adjusting circuits. This results in flat, pure sound which is a more faithful reproduction of the input source.

Off:

When the button is in this position the indicator goes out and the signal passes through the various frequency adjusting circuits.

NOTE:

The settings for ② — ⑤ and ⑧ when the power was last turned off are memorized and recalled when power is turned on, regardless of whether the AC cord was plugged in or not.

When the DIRECT button is in the on position, the SUBSONIC filter is off.

PANEL FACILITIES

⑥ INPUT SELECTOR switch

Use to select playback source.

LINE:

Set to this position when listening to the programs from a component connected to the LINE jacks.

PHONO:

When selected, the indicator flashes for 8 seconds.

Set to this position when listening to record playback on a turntable.

TUNER:

Set to this position when listening to AM or FM broadcasts with a tuner.

CD:

Set to this position when listening to a compact disc playback with a CD player.

TAPE 1/DAT:

For playback with a cassette deck or digital audio tape deck connected to the TAPE 1/DAT jacks.

TAPE 2:

For playback with a cassette deck connected to the TAPE 2 jacks.

⑦ VOLUME control

Use to adjust volume level.

NOTE:

This unit is equipped with a circuit that attenuates the effect of tone and loudness controls as volume is turned up.

⑧ PHONO selector button

Set in accordance with the type of cartridge used in your turntable.

MM (■) Released position:

Set to this position when using a moving magnet cartridge, or a MC (moving coil) cartridge with high output of 1 mV or more.

MC (■) Depressed position:

Set to this position when using a moving coil cartridge.

⑨ SPEAKERS selector buttons

Use these buttons to listen to the speaker systems connected to SPEAKERS terminals.

OFF (■) Released position:

No sound is heard from the speaker systems. Set to this position when listening with headphones.

A (■) Depressed position:

For reproduction of sound with the speaker system connected to the SPEAKERS A terminals.

B (■) Depressed position:

For reproduction of sound with the speaker system connected to the SPEAKERS B terminals.

⑩ PHONES jack

When using headphones, insert the plug into this jack. (When you want to listen with headphones only, refer to ⑨.)

⑪ BASS tone control

Use to adjust the low-frequency tone at low volume level. The center position is the flat (normal) position. When turned to the right, low-frequency tones are emphasized; when turned to the left, low-frequency tones are de-emphasized.

NOTES:

- This function does not operate when the DIRECT button is in the on position.
- At volume levels below the 10 o'clock position, the set tone control effect is obtained.
- At volume levels above the 10 o'clock position, the effect becomes increasingly weaker.

⑫ TREBLE tone control

Use to adjust the high-frequency tone at low volume level. The center position is the flat (normal) position. When turned to the right, high-frequency tones are emphasized; when turned to the left, high-frequency tones are de-emphasized.

NOTES:

- This function does not operate when the DIRECT button is in the on position.
- At volume levels below the 10 o'clock position, the set tone control effect is obtained.
- At volume levels above the 10 o'clock position, the effect becomes increasingly weaker.

⑬ BALANCE control

Should normally be left in the center position. Adjust balance if the sound is louder from one of the speakers. If the right side is louder, turn toward the L (left) position and if the left side is louder, turn toward the R (right) position.

NOTE:

This function does not operate when the DIRECT button is in the on position.

⑭ REC SELECTOR switch

Switch to select recording signal. When set at other positions than SOURCE or OFF, signals can be recorded during playback of the equipment selected by INPUT SELECTOR switch.

TUNER:

To record from a TUNER.

CD:

To record from a CD player.

OFF:

In this position nothing from the REC jacks of TAPE 1/DAT and TAPE 2 will be output. Select it when not recording; output to cassette decks will be disconnected, improving sound quality.

SOURCE:

To record the equipment selected by INPUT SELECTOR switch.

TAPE:

1 ► 2:

To record (copy) from the cassette deck of TAPE 1/DAT jacks, over to the cassette deck of TAPE 2 jacks.

2 ► 1:

To record (copy) from the cassette deck of TAPE 2 jacks, over to the cassette deck of TAPE 1/DAT jacks.

NOTE:

The REC SELECTOR switch has no effect on the recording output of the ADPT/TAPE 3 jacks.

⑮ MUTING button/indicator

Use to temporarily cut sound volume.

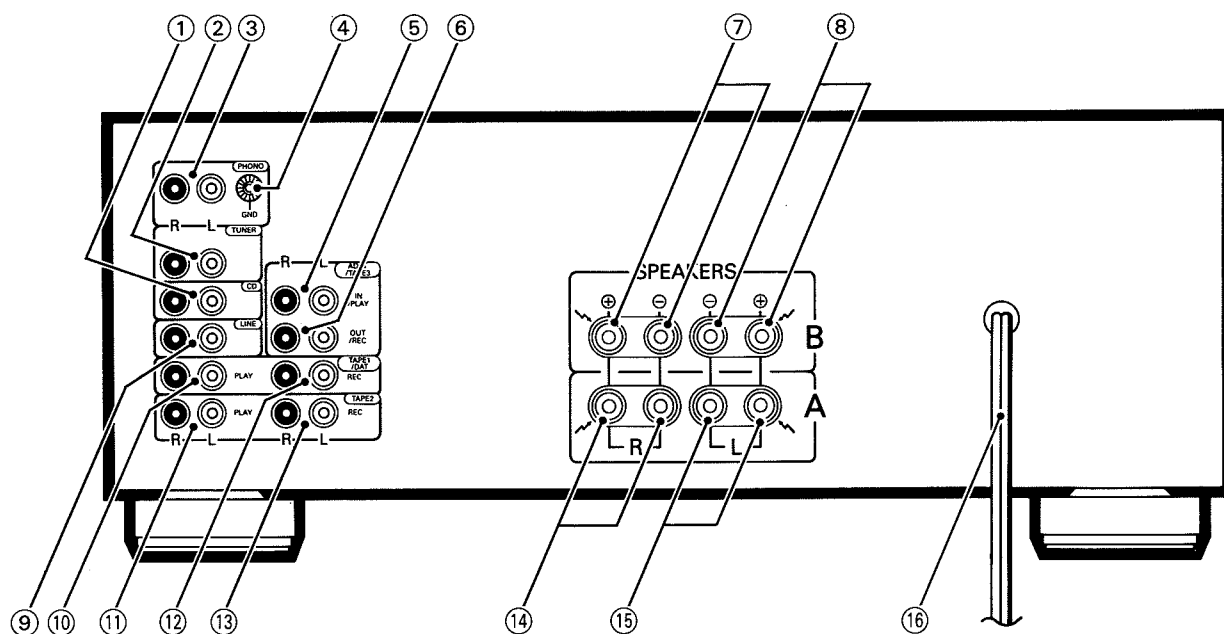
On: (Red illumination)

The indicator lights. The sound volume will be reduced —20 dB.

Off:

The indicator goes off. The sound will return to its previous volume.

[REAR PANEL]



① CD jacks

② TUNER jacks

③ PHONO jacks

④ Turntable ground terminal (GND)

⑤ ADPT/TAPE 3 IN/PLAY jacks

⑥ ADPT/TAPE 3 OUT/REC jacks

⑦ SPEAKERS B terminals (right channel)
(See page 7.)

⑧ SPEAKERS B terminals (left channel)
(See page 7.)

⑨ LINE jacks

⑩ TAPE 1/DAT PLAY jacks

⑪ TAPE 2 PLAY jacks

⑫ TAPE 1/DAT REC jacks

⑬ TAPE 2 REC jacks

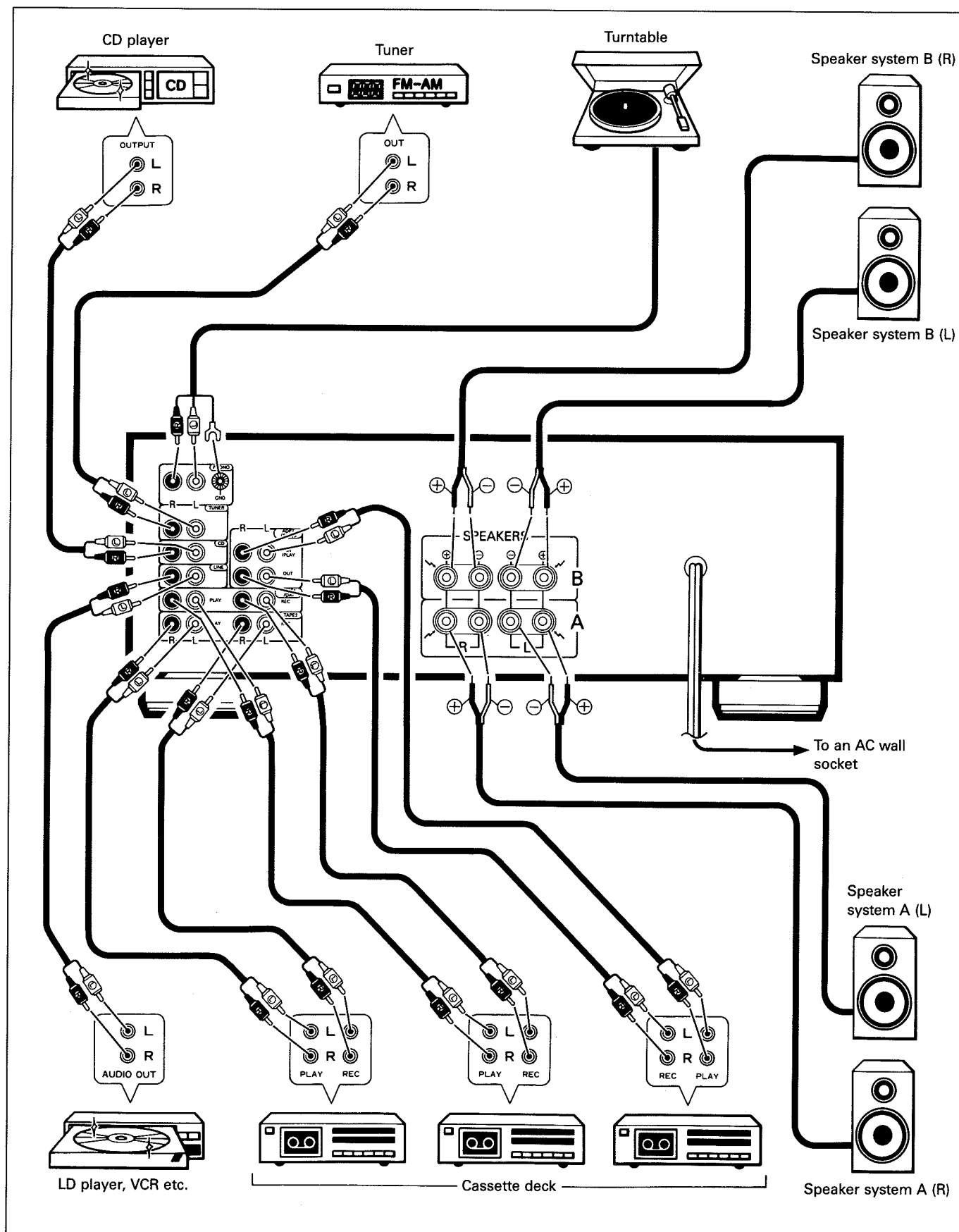
⑭ SPEAKERS A terminals (right channel)
(See page 7.)

⑮ SPEAKERS A terminals (left channel)
(See page 7.)

⑯ Power cord

Connect this cord to an AC wall socket, or the AC outlet of an audio timer.

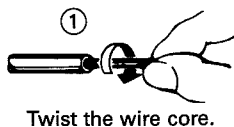
CONNECTIONS



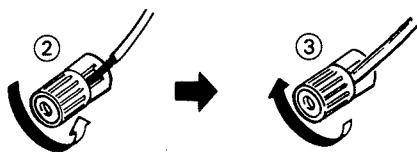
Make all connections before plugging in AC cords.

CONNECTING THE SPEAKER CORDS

1. Strip off the vinyl covering and twist the tip of the wire core.



2. Loosen the knob and insert the wire core into the terminal hole.
3. Tighten the knob to fix the wire core in place.



NOTE:

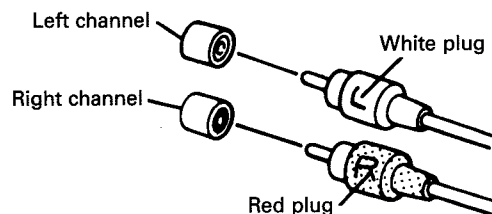
Do not allow the wire core to protrude and touch other terminals or wires. If the cores of different wires touch, damage may be caused to your components.

Speaker Impedance

When speaker systems are connected to only one of the SPEAKERS A or B terminals, such speakers should have rated impedance in the range of 4—16 Ω .

When speakers are connected to both the A and B terminals, they should have a rated impedance in the range of 8—32 Ω .

CONNECTING INPUT/OUTPUT CORDS



Connect the white plug to the L (left) channel, and the red plug to the R (right) channel. Be sure to push the plugs securely.

OPERATIONS

BEFORE BEGINNING OPERATIONS

Set the controls and switches as follows: See page 3.

1. Set the **VOLUME** control ⑧ to minimum.
2. Set the **POWER** switch ① to on.
3. Press the **SPEAKERS** selector button ⑨ corresponding to the speaker system to be used.
4. Set the **BALANCE** control ⑬ to the center position.
5. Set the **DIRECT** button ⑤ to off.
6. Set the **ADPT/TAPE 3** button ② to off.

PLAYBACK PROCEDURES

1. Set the **INPUT SELECTOR** ⑥ or **ADPT/TAPE 3** ② button.

How to select playback source;

- When listening to programs from equipment connected to the LINE jacks: Set to [LINE].
- When listening to a record: Set to [PHONO].
Set PHONO selector button ⑩ to MM (■) or MC (■) according to the type of cartridge being used.
- When listening to an AM/FM broadcast: Set to [TUNER].
- When listening to a compact disc: Set to [CD].
- When listening to a tape: Set to [TAPE 1/DAT], [TAPE 2] or [ADPT/TAPE 3].

2. Operate the playback equipment.
3. Adjust playback volume with the **VOLUME** control ⑦ on this unit.

RECORDING TAPES

When using the cassette deck connected to the ADPT/TAPE 3 jacks for recording.

The source selected with the **INPUT SELECTOR** switch ⑥ will be recorded, regardless of the **REC SELECTOR** position. However, recording will not be possible when the **DIRECT** button ⑤ is on.

1. Select the recording source with **REC SELECTOR** switch ⑭.

- When set to the **SOURCE** position, the signals from the device selected by **INPUT SELECTOR** switch ⑥ are recorded. (To record signals from a device connected to the PHONO or LINE jacks, set the **REC SELECTOR** switch ⑭ to **SOURCE** and set the **INPUT SELECTOR** switch to PHONO or LINE).
- Recording is impossible when the switch is set to OFF.

NOTE:

When this switch is set at other than **SOURCE** and **OFF** position, the equipment selected by **REC SELECTOR** switch ⑭ can be recorded, regardless of the setting of **INPUT SELECTOR** ⑥ or **DIRECT** ⑤ buttons.

2. Begin recording by operating the source equipment and cassette deck.

Refer to the operating instructions for your cassette deck for proper operating procedures.

Monitoring while recording

When recording from the tuner or CD only.

On a 3-head cassette deck, sound can be concurrently heard while recording. This operation of checking the sound quality and recording level is called "monitoring." When monitoring, set the **INPUT SELECTOR** switch ⑥ of this equipment in the following way, to match the cassette deck on which recording is being done.

- When recording on the cassette deck of TAPE 1/DAT jacks:
Set to TAPE 1/DAT.
- When recording on the cassette deck of TAPE 2 jacks:
Set to TAPE 2.
- When recording on the cassette deck of ADPT/TAPE 3 jacks:
Set ADPT/TAPE 3 button to on.
- When recording from PHONO or LINE source, recording monitor is possible.

NOTE:

When using ADPT/TAPE 3 jacks, set the **DIRECT** button to off.

COPYING TAPES

When two decks are used, you can record the sounds from one deck onto the other.

Application examples:

- To make a tape copy with contents identical to the original tape.
- To edit a recording of a radio broadcast in order to cut out unwanted commercials, recording only desired material onto another tape.

1. Load tapes for playback (pre-recorded tape) and recording into the respective cassette decks.
2. Select the cassette deck to be copied with **REC SELECTOR** switch ⑭.

- When copying from the cassette deck of TAPE 1/DAT jacks to the cassette deck of TAPE 2 jacks: Set to 1 ► 2.
- When copying from the cassette deck of TAPE 2 jacks to the cassette deck of TAPE 1/DAT jacks: Set to 2 ► 1.

NOTE:

The tape selected with **REC SELECTOR** switch ⑭ can be copied, regardless of the settings of **INPUT SELECTOR** ⑥ and **DIRECT** ⑤ buttons.

3. Operate the cassette decks to begin copying.

Set the cassette deck with the blank tape to the recording mode, and set the cassette deck with the original (playback) tape to the playback mode.

PLAYBACK USING A GRAPHIC EQUALIZER

The sound of all sources can be finely adjusted with a graphic equalizer connected to ADPT/TAPE 3 jacks.

However, the graphic equalizer is bypassed when **DIRECT** button ⑤ is on.

NOTE:

Be sure to perform this operation with the adaptor component power switch in the on position. Even when not using the adaptor component, its power switch must be left on. If the adaptor component is switched off, no sound will be produced, or the playback sound will be distorted.

TROUBLESHOOTING

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used. If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Symptom	Cause	Remedy
No power supplied to unit.	• Power plug is disconnected from outlet. • The component power plug has been plugged into another component power outlet (e.g. timer, etc.) but power to that unit is disconnected. • POWER switch is set to off.	• Insert plug securely into outlet. • Turn on power to the other component. • Press the POWER switch to on.
No sound.	• Connecting cords are disconnected from jacks, or connected incorrectly. • Jacks, or connecting cords pin plugs are dirty. • The INPUT SELECTOR switch or ADPT/TAPE 3 button selected does not match the component being played back. • Operation of other components is incorrect. • The SPEAKERS selector button is set to OFF (■).	• Connect securely. • Clean jacks and plugs. • Set INPUT SELECTOR switch correctly (PHONO, TUNER, CD, LINE, TAPE 1/DAT, TAPE 2). Set the ADPT/TAPE 3 to OFF. • Consult the operating instructions for the other components. • Set one button or both button to ON (■).
Cannot adjust sound volume. (Low sound level only)	• MUTING button is on (indicator lit).	• Turn off the MUTING button (indicator off).
No sound from one speaker.	• Connecting cords or speaker cords are disconnected on that side. • BALANCE control has been adjusted to one side.	• Connect securely. • Adjust BALANCE control to center position.
Cannot record tapes.	• The position of REC SELECTOR switch is incorrect. • Connections are incorrect. • Operation of cassette deck is incorrect.	• Set switch correctly (See section "RECORDING TAPES"). • Reconnect properly. • Consult the operating instructions for the cassette deck.
Cannot perform tape copying.	• The position of REC SELECTOR switch is incorrect. • Operation of cassette decks is incorrect.	• Set switch correctly (see section "COPYING TAPES"). • Consult the operating instructions for the cassette decks.

Abnormal functioning of this unit may be caused by lightning, static electricity, or other external interference. To restore normal operation, turn the power off and then on again, or unplug the AC power cord and then plug it in again.

SPECIFICATIONS

Continuous power output (both channels driven at 20 Hz to 20 kHz)**	
T.H.D. 0.03 %, 4 Ω	100 W + 100 W*
T.H.D. 0.015 %, 8 Ω	70 W + 70 W*
DIN Continuous power output (both channels driven at 1 kHz)	
T.H.D. 1.0 %, 4 Ω	120 W + 120 W
T.H.D. 1.0 %, 8 Ω	80 W + 80 W
Power bandwidth	
0.05 %, 8 Ω	5 Hz — 80 kHz*
Damping factor	
(1 kHz/20 Hz to 20 kHz), 8 Ω	160/140
Dynamic power output (on EIA dynamic test signal)	
4 Ω /2 Ω	150 W/200 W
Total harmonic distortion**	
20 Hz to 20 kHz, (continuous power output/—3 dB), 8 Ω	
.....	0.007 %*
Inter-modulation distortion (at rated output)	0.015 %*
Input sensitivity/impedance	
PHONO (MM)	2.8 mV/50 k Ω
PHONO (MC)	0.24 mV/100 Ω
CD, TUNER, LINE, TAPE	200 mV/50 k Ω
PHONO overload level	
1 kHz, T.H.D. 0.1 % (MM/MC)	200 mV/19 mV
Output level/impedance	
TAPE REC, ADAPTOR OUTPUT	200 mV/1 k Ω
Frequency response	
PHONO (MM)	20 Hz to 20 kHz ± 0.2 dB
PHONO (MC)	20 Hz to 20 kHz ± 0.3 dB
CD, TUNER, LINE, TAPE	1 Hz to 150 kHz ± 0.3 dB*
Tone control (volume control set at —30 dB position)	
BASS	± 8 dB (100 Hz)
TREBLE	± 8 dB (10 kHz)
Loudness contour (volume control set at —30 dB position)	
.....	+5 dB (100 Hz)/+3 dB (10 kHz)
Filter (SUBSONIC)	17 Hz (12 dB/oct.)
Muting	—20 dB
Signal-to-Noise ratio (IHF short circuit, A network)	
PHONO (MM, 5 mV input/MC, 0.5 mV input)	90 dB/76 dB*
CD, TUNER, LINE, TAPE	110 dB*
Signal-to-Noise ratio (DIN, continuous power/50 mW)	
PHONO (MM)	74 dB/72 dB*
CD, TUNER, LINE, TAPE	95 dB/81 dB*

Power Supply/Miscellaneous

Power Requirements	a.c. 240 Volts, 50/60 Hz
Power Consumption	650 W
Dimensions	420 (W) x 432 (D) x 161 (H) mm
Weight (without package)	12.0 kg

Accessories

Operating instructions	1
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NOTE:

Specifications and design are subject to possible modification without notice, due to improvements.

* When the DIRECT button is set to ON.

** Measured by Audio Spectrum Analyzer.

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